

Amendments to the Specification:

Pursuant to 37 C.F.R. § 1.121(b) kindly amend the specification as follows. Amendments to the specification are made by presenting replacement paragraphs or sections marked up to show changes made relative to the immediate prior version. The changes in any amended paragraph or section are being shown by strikethrough (for deleted matter) or underlined (for added matter).

On page 8, paragraph 4.

As can be seen from Fig. 1, some type of engines such as V6 or V8 engines, CTA Phaser devices work well. The reason is that for V6 or V8 engines, the primary cam torque input comes from the 3rd cam order, which is from the firing order. These engines also have lower maximum engine speed compared with other types of engines such as I4, I5, etc. Furthermore, for V6 or V8 engines, the 3rd order torsional input is still very high. However, with regard to 4 cylinder engines, the primary cam torque input comes from the 4th cam order. On a typical 4-cylinder engine this 4th order torque input reduces to near zero levels at higher engine speeds. As a result, the effectiveness of the cam torque actuated Phaser is reduced after 3500 to 5000 RPM. One prior art approach used to over come this disadvantage is to add back in some cam torsionals by adding an extra cam lobe that will generated a torsional pulse which in turn will help power the device. This is explained in U.S. PAT NO.5,107,805, Issued ~~11/28/92~~ 04/28/92.